

Quality, Cost, and Purpose: Comparisons of Government and Private Sector Payments for Similar Services

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We count on government to do many important things – things we can't do alone – like provide good schools, protect our environment, promote public safety, and offer a safety net for those facing misfortune. In fact, we frequently take these essential functions for granted. Furthermore, we hope and expect that our investments in these shared priorities will be made as efficiently as possible. But are they? Occasional gross misuses of tax dollars often make the news – as they should. We need to hold government to a high standard and demand that waste is attacked and eliminated. But how can we really know whether our government is spending money wisely in general?

One way to examine this question is by comparing what government pays with what private purchasers pay for the same things, or for similar things. Some of the things that government does do not have private market comparisons – but many do. Much of what Massachusetts state government pays for is *not* services provided directly by public employees – as is commonly thought – but rather services that it purchases or funds local governments to provide.

This paper looks at what our state government pays for child care (which Massachusetts calls “early education and care” in recognition of the importance of quality early care in the educational development of children), health care, and education, and compares those costs to what is paid for those services in the private sector. We find that in providing child care for lower-income working parents, the state purchases care from providers who also provide care to private clients. The rates that the state pays these providers range from 66 percent to 96 percent of the median market rate in each region. Our state Medicaid program buys health care in the same market as private payers, but pays only 80 percent of the rates paid by private payers. Finally, this paper finds that the average cost of public schools, \$13,000 per student, is dramatically below the cost of private schools, which average \$32,000 per student – and generally educate children from less challenging backgrounds.

While we look at just three areas of government, they are major areas, together accounting for about half of all spending. What do we learn and where should it lead us? In the areas examined, government costs are significantly lower than private sector costs. Should this be seen as an encouragement of complacency? Absolutely not. Regardless of whether the public sector has higher or lower costs than the private sector, there is a need for ongoing vigilance to demand efficiency and identify and eliminate wasteful practices when they are found.

Is the fact that government pays significantly less than the private sector for many services always a good thing? This is a critical question that raises two important issues: quality and cost shifting.

In the area of early education and care, issues of both quality and cost shifting are at play. As a major purchaser of child care services, the state plays a role in shaping the market, but also pays less than private payers for children in the same child care centers. Keeping the rates it pays low forces providers to keep costs down. As the major cost for child care providers is labor, this results in low

wages, leading to high turnover and difficulty in attracting well-trained and educated providers that could improve the quality of care provided.

In health care, quality is probably less of a concern. The state buys services in the same hospitals and from the same doctors that private insurers pay. We are aware of no evidence that those providers vary the quality of the care they provide based on the source of payment. The more likely result is cost-shifting: when providers are paid less than the cost of care by public payers, there is evidence that they increase rates for private payers to make up the losses. The result can be that the “savings” taxpayers achieve by government paying less than market rates may ultimately be paid by those same people in their health insurance rates.

Finally, in education, the quality issue is front and center: is the state paying half of the private sector cost of elementary and secondary education and getting the same quality, or could the state provide higher quality education if it paid closer to the market price?

This paper examines these issues in more detail, looking carefully at market costs and how they compare to what the state pays. It also examines some of the implications of those differences. In a democracy, the issue of how the taxes that everyone pays are used to achieve common goals is among the most important issues of public debate. This paper aims to support that debate by providing a clearer picture of how public dollars are spent in three important areas.

Early Education and Care Services: A Comparison of State Rates and Private Market Rates

When it comes to purchasing early education and care services¹ in the Commonwealth, the state spends significantly less per slot than a typical private paying family in the same program. The child care market is primarily a private, fee-for-service based system in which parents are consumers who purchase care for their children. The Commonwealth enters the private market to purchase child care slots for children of low-income families receiving early education and care subsidies. In FY 2009, the Commonwealth served approximately 57,400² low income children³ through its early education and care subsidy programs, with more than 20,000 still waiting for access to the program.⁴ These subsidies are paid via early education and care provider reimbursement rates set by the state. The rates at which the Commonwealth purchases early education and care services fall considerably below what average providers charge private paying families for the same services.

Because state reimbursement rates are less than typical market rates, early education and care providers experience a rate gap, a disparity between what they charge private paying families and what they get reimbursed for a subsidized slot. In order to mitigate this disparity, providers who accept subsidized slots may have to keep costs down or shift costs, depending on the number of subsidized slots they support. As the major cost for child care providers is labor, cost cutting may result in low staff wages, which have been linked to high turnover and difficulty in attracting well-trained and educated professionals, factors which impact the quality of care provided. Cost shifting may result in higher rates or fees charged to private paying families. Altogether, the growing gap between low state reimbursement for subsidized early education and care and the higher prices set by the private market affects the supply and quality of early education and care services available to families.

PROVIDER STATE REIMBURSEMENT RATES: AN OVERVIEW

It is important to clarify the federal requirements and state structure associated with the determination of state early education and care provider reimbursement rates before examining their significance in relation to the private market.

FEDERAL REQUIREMENTS

Although states have broad discretion in establishing subsidized child care policies, each state must adhere to some general federal requirements pertaining to early education and care provider reimbursement rates.

States set maximum provider reimbursement rates for the provision of early education and care services that consist of two parts: the state subsidy paid directly to a provider and the co-payment the family pays to a provider. These co-payments vary according to family income and size on a sliding fee scale, and the amount of the state subsidy declines as the family co-payment rises. Added together, however, the parent co-payment and state contribution may not exceed the maximum reimbursement rates set by the state.⁵ The Department of Early Education and Care (EEC), the state agency responsible for managing early education and care assistance in the Commonwealth, has established a Parent Co-Payment Schedule⁶ which adheres to federal benchmarks on child care affordability.⁷

According to federal requirements,⁸ states must make an effort to assure that their provider reimbursement rates are set at levels sufficient to ensure equal access to comparable care purchased by private paying families.⁹ To this end, states are required to conduct a biennial survey of child care prices, called a market rate survey.¹⁰ States are then encouraged to use the results of this survey in determining state reimbursement rates.

STATE RATE STRUCTURE

In order to compare private market rates to the state rates for early education and care services, it is important to first understand how the Commonwealth sets its state reimbursement rates. The early education and care market is complex. So, as is the case in other states, the Commonwealth calibrates early education and care provider reimbursement rates by three sub-markets in order to capture relevant cost differentials: age group (e.g., infant, toddler, preschool), setting (e.g., group child care, family child care) and geographic region.¹¹ In terms of age group, typically, early education and care staffing costs decrease as the child in care's age increases, largely because state required staff-to-child ratios increase as the age of the child increases (e.g., in a center-based setting, infant care requires an educator to child ratio of 1 to 3 whereas preschool care requires a ratio of 1 to 10¹²). In terms of early education and care setting, costs associated with delivering education and care in a center-based care setting tend to be higher than family child care because those facilities tend to have higher overhead costs. Lastly, cost of living also impacts provider costs geographically; as such, provider costs tend to be higher in the eastern part of the state and lower in the central and western parts of the state. EEC has designated the following six geographic regions for administrative purposes: Western (including Springfield, Pittsfield, and North Adams), Central (including Fitchburg and Worcester), Northeastern (including Lowell, Lynn, and Lawrence), Metro Boston (including the I-95 corridor, Quincy, Framingham and Newton), Southeastern (including New Bedford, Brockton, and Fall River), and the City of Boston.

EARLY EDUCATION AND CARE STATE REIMBURSEMENT RATES AND MARKET RATES: A COMPARISON

METHODOLOGY AND DATA

For the purposes of this analysis, we are evaluating daily state provider reimbursement rates¹³ associated with full-day placements in formal, licensed center-based child care settings, since approximately 70 percent of subsidy placements occur in that setting type.¹⁴ Further, we also use the results of the most current market rate survey conducted for the Commonwealth, *The Massachusetts 2008 Child Care Market Rate Survey*,¹⁵ and cite state reimbursement rates in effect at the time of the study (rates effective July 2008). In this analysis, we primarily compare the public state rates with the median of private market rates for analysis purposes. The median marks the mid-point of the distribution of private market rates, dividing the distribution into halves, meaning that half of rates are above it and half are below it. The advantage of using the median as the point of comparison for the private market is that it is not affected by outliers as the mean or average and it represents the center of the range of private market rates.

We also note some comparisons between the public state rate and the 75th percentile of market rates, a statistic reported throughout *The Massachusetts 2008 Market Rate Survey*. Although not required, federal guidance recommends that states set provider reimbursement rates at the 75th percentile of current market rates in order to maximize families' access to early education and care. The premise of this affordability benchmark is as follows: if a state sets provider reimbursement rates at the 75th percentile

of the market, approximately 75 percent of providers could accept the state rate, thus providing parents receiving early education and care subsidies with access to 75 percent of the market. Given that the federal guidance considers this 75th percentile the benchmark for equitable access, we have included these rates as a point of comparison as well.

Table 1 below presents elements of the Commonwealth’s rate structure as well as some key results of *The Massachusetts 2008 Market Rate Survey*. This table presents a comparison of full-day rates for licensed center-based child care by EEC Region (Western, Central, Northeastern, Metro Boston, Southeastern, and Boston) and age group (infant, toddler, preschool). For comparison, we present EEC’s state maximum reimbursement rate (as of July 2008), *The Massachusetts 2008 Market Rate Survey*’s calculations of Median Private Market Rate and 75th Percentile of the private market rate as well as the state rate as a percentage of the median private market rate.

Table 1: Daily Full-Day Rates for Licensed Center-Based Care by Region and Age Group

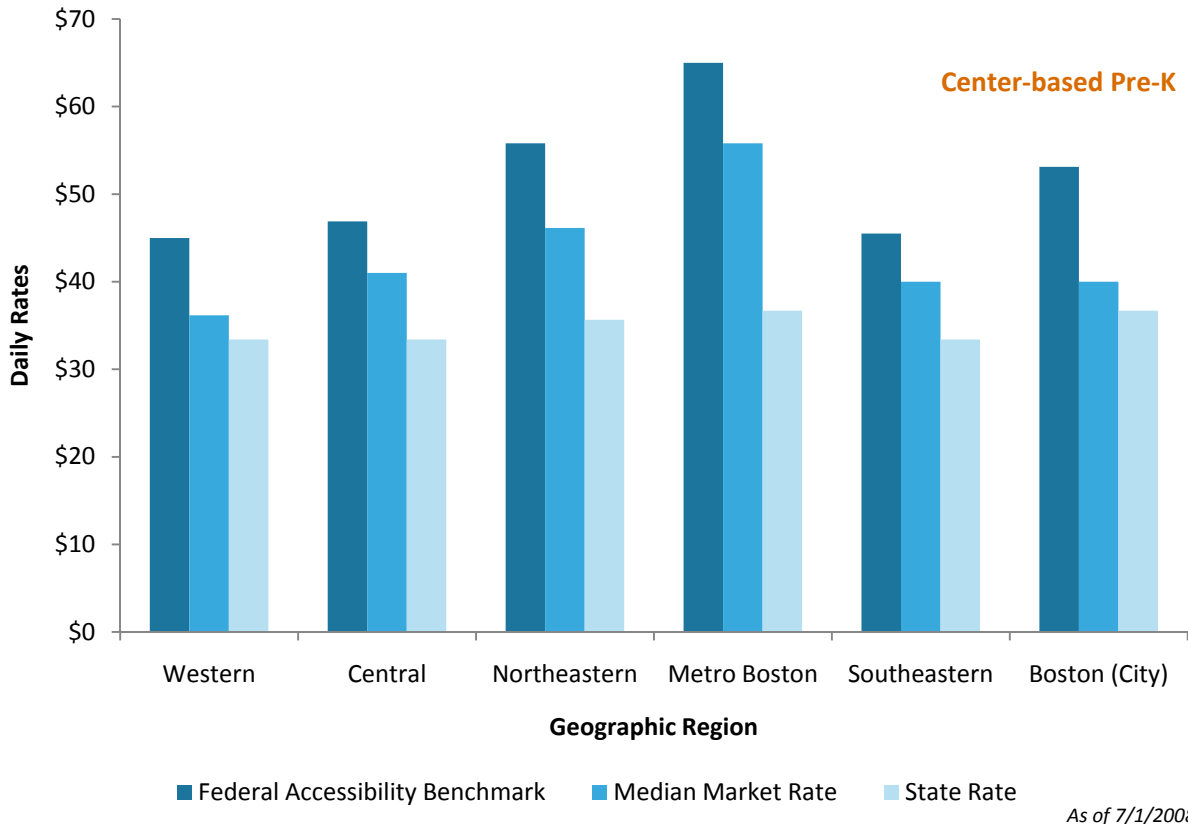
LICENSED CENTER-BASED CARE					
Region	Age Group	State Reimbursement Rate (7/1/2008)	Median Market Rate	State Rate As a Percentage of Median Market	75th Percentile Market Rate <i>Federal Accessibility Benchmark</i>
Western	Infant	\$47.90	\$51.00	93.9%	\$58.00
	Toddler	\$43.20	\$46.37	93.2%	\$53.00
	Preschool	\$33.40	\$36.16	92.4%	\$44.99
Central	Infant	\$49.20	\$54.00	91.1%	\$64.90
	Toddler	\$44.20	\$50.00	88.4%	\$56.00
	Preschool	\$33.40	\$41.00	81.5%	\$46.88
Northeastern	Infant	\$54.95	\$67.00	82.0%	\$76.60
	Toddler	\$49.55	\$60.00	82.6%	\$69.60
	Preschool	\$35.65	\$46.14	77.3%	\$55.80
Metro Boston	Infant	\$59.50	\$77.92	76.4%	\$87.40
	Toddler	\$52.85	\$70.00	75.5%	\$79.00
	Preschool	\$36.70	\$55.80	65.8%	\$65.00
Southeastern	Infant	\$47.90	\$50.00	95.8%	\$59.00
	Toddler	\$44.20	\$47.00	94.0%	\$53.80
	Preschool	\$33.40	\$40.00	83.5%	\$45.50
Boston (city)	Infant	\$54.55	\$65.00	83.9%	\$93.86
	Toddler	\$48.40	\$56.81	85.2%	\$71.90
	Preschool	\$36.70	\$40.00	91.8%	\$53.12

ANALYSIS

Overall, the Commonwealth purchases early education and care at rates that are below median market rates (the rates at which private paying families typically purchase care). According to *The Massachusetts 2008 Market Rate Survey*, the Commonwealth’s state reimbursement rates are considerably lower than the median market rates for all types of care in all geographic regions (see

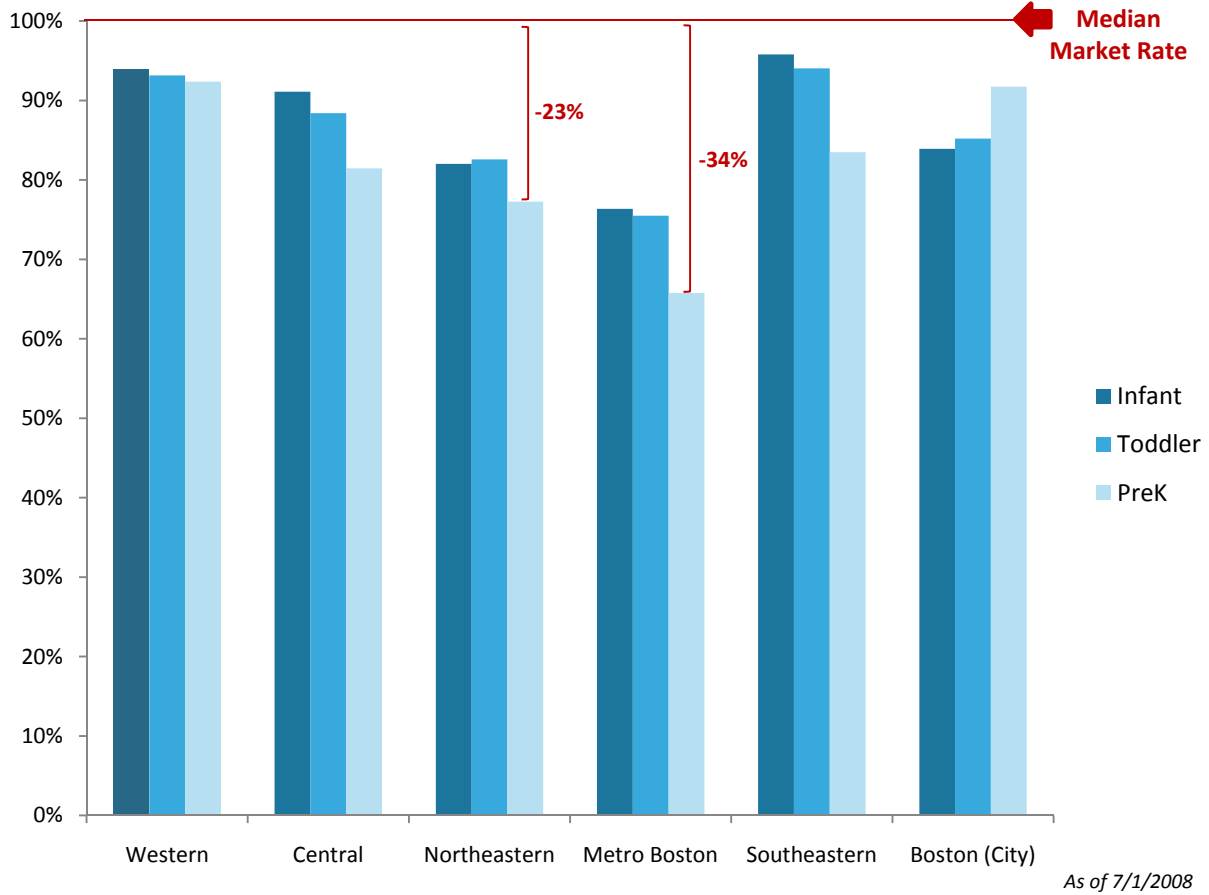
Table 1). In its 2008-2009 Child Care Development Fund (CCDF) State Plan, EEC indicates that more than 60 percent of all private, licensed center-based child care providers accept children who receive a subsidy, despite the fact that state reimbursement rates are lower than the median market rates.¹⁶ These centers serve a mixed population of private paying and subsidized families and provide children with equitable services, despite the difference in reimbursement rates and mechanism of payment. Thus, the Commonwealth is purchasing the same level of early education and care services at a significantly lower price than the private paying market. (See Chart 1)

Chart 1: State Rates Fall Short of Both the Federal Accessibility Benchmark and Median Market Rates in All Regions



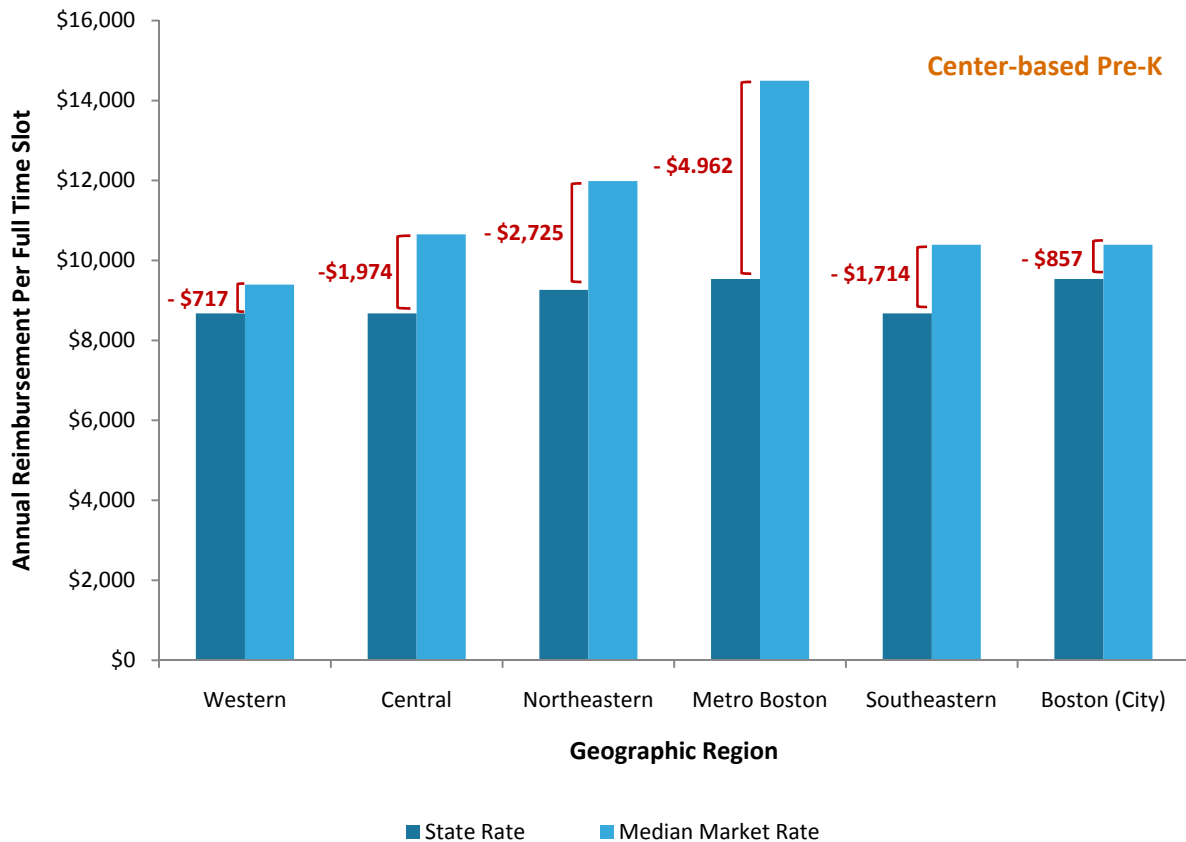
More specifically, in the Metro Boston and Northeastern regions, where approximately 30 percent of all subsidized placements occur, this difference is particularly significant. In the Metro Boston region, the Commonwealth purchases center-based care for infants at a rate which is 24 percent below the median market rate, an \$18.42 difference per day. For toddlers, the rates are 25 percent below the median market rate, a \$17.15 difference per day. For preschool care, the state rate is 34 percent below the median market rate, resulting in a \$19.10 per day rate differential. In the Northeastern region, the Commonwealth purchases center-based care at a rate which is 18 percent below the median market rate for infants, 17 percent below the median market rate for toddlers, and 23 percent below the median market rate for preschoolers. Similar results hold true for the other regions of the Commonwealth, which can be seen graphically in Chart 2 below.

Chart 2: Examining State Rate as a Percentage of Median Market Rate Reveals Large Gaps



When this rate disparity is analyzed on an annual basis, the results are more striking. As shown in the Chart 3 below, early education and care providers across the Commonwealth who accept full-time preschool subsidies face an annual per slot reimbursement gap ranging from \$717 in the Western region to \$4,962 in the Metro Boston region.

Chart 3: Annual Gap between State Rate and Median of Private Market Rate for Preschool Care
 Range from \$717 to \$4,962

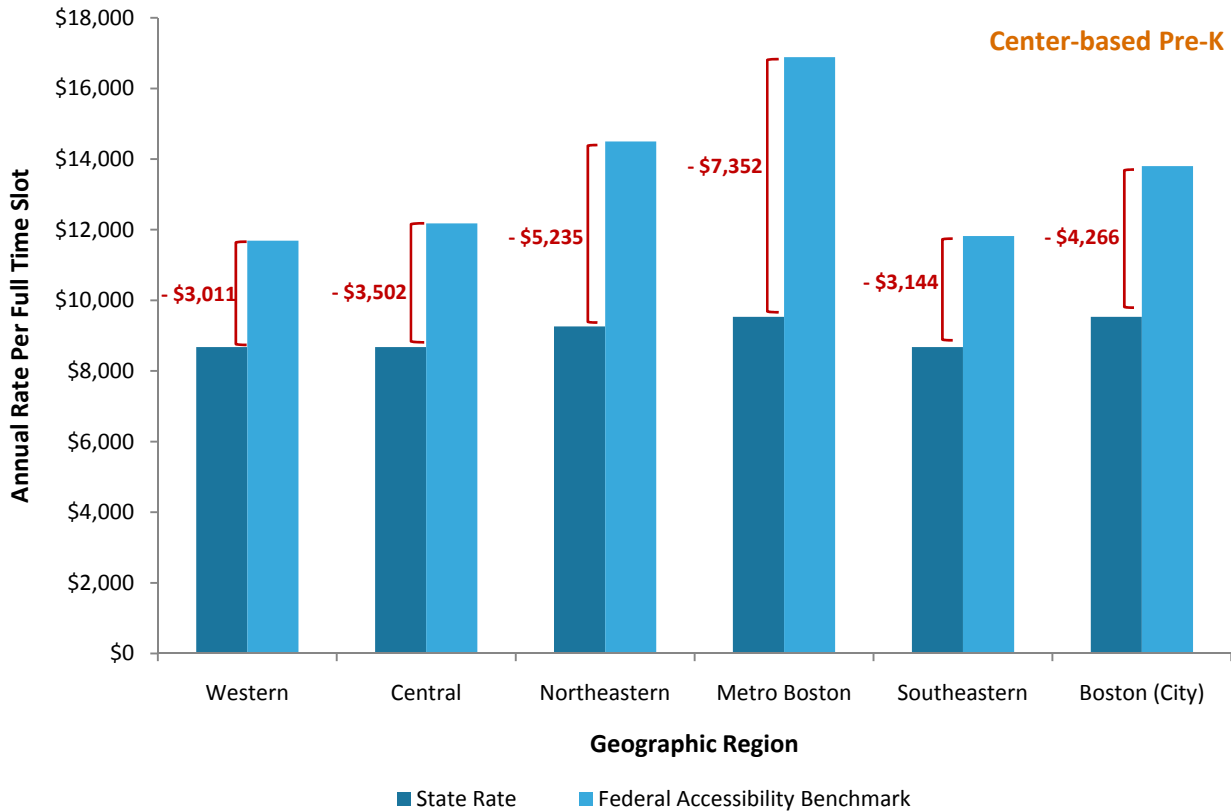


For a program that offers several subsidized slots, this rate differential can certainly add up. A center-based preschool program in the Metro Boston region could forgo \$4,962 annually for each state-subsidized slot it accepts, when compared to an equivalent private pay slot at the median of market rate. If this program accepts five full-time subsidized preschool slots, the median market to state rate gap could be as much as \$24,810 annually. To put this in perspective, this forgone revenue could fund approximately one full-time child care aide salary.¹⁷ Similarly, a center-based preschool program in the Northeastern region could forgo \$2,725 annually for each state-subsidized slot it accepts, when compared to an equivalent private pay slot at the median of market rate. If this program accepts 10 full-time subsidized preschool slots, this rate disparity could result in as much as a \$27,250 loss on an annual basis.

As state reimbursement rates fall significantly below the median of market rates, it follows that these rates fall short of the 75th percentile of the market rate, the benchmark established by the federal government to ensure that families receiving subsidies have equitable access to the early education and care market. As illustrated in Chart 4, the Commonwealth’s state reimbursement rates fell well below the 75th percentile of market rates in every region. When this gap is annualized, the results are striking. In the Metro Boston region, a center-based preschool program receives \$7,352 less per year per state subsidized slot than an equivalent private pay slot at 75th percentile of the market rate. In this case, a center-based program whose private pay rate is set at 75th percentile of the market and offers 10 full-time slots to preschool receives \$73,520 less for 10 state-subsidized slots than for 10 private paying

slots. Again, similar disparities, although less severe as the aforementioned, may be observed across all regions.

Chart 4: Annual Gap between State Rate and 75th Percentile of Market Rate Ranges from \$3,011 to \$7,352



Further analysis shows that the Commonwealth not only purchases care at rates below the median market rate, but also below the 25th percentile of market rates. In fact, with the exception of infant and toddler care in the Western region and infant care in the Central region, all reimbursement rates for center-based care fell below the 25th percentile of the market. This means that in most instances, three-fourths of programs charged higher rates for private pay slots than the rates at which they were reimbursed by the state to provide the same services via subsidized slots. In the Northeastern region, the state reimbursement rate for full-day infant care was \$12.05 below the median market and \$5.05 per day below the 25th percentile of market. The market rate study shows that the state reimbursement rates in the Metro Boston region fall considerably below even the 25th percentile of the market. In this region, where the difference between the state reimbursement rate for full-day, center-based preschool care and the median market rate is already \$19.10 per day, the state reimbursement rate still falls \$11.30 per day below the 25th percentile of the market. This translates to a rate gap of close to \$2,936 per year, per slot when compared to 25th percentile.

POTENTIAL CONSEQUENCES OF PURCHASING CARE AT RATES BELOW MEDIAN MARKET

The fact that the Commonwealth pays below median market rates for early education and care services may create budgetary challenges to providers and hinder both the supply and delivery of high quality

early education and care. Child care markets are complex, often infused with a mix of public, private and in-kind dollars. Since the Commonwealth purchases a significant number of subsidized early education and care slots across the state, it is important to consider how insufficient state reimbursement rates may have an impact on the operating budgets of programs that accept subsidized slots. Current state rates fall well short of the true cost of providing care. While there may be occasional situations where a provider may be able to avoid adverse effects of low state rates by filling a slot that would otherwise exist and be vacant with a child receiving a state subsidy, in the long term rates that do not meet the cost of providing quality care may make it much harder for providers to offer quality care unless they shift significant costs on to private paying families.

A factor which should be considered in analyzing the public-private reimbursement differential is that early education and care providers in the Commonwealth are not permitted to charge families who receive subsidies with any fees to supplement their maximum daily reimbursement rate (which is comprised of a state determined family co-payment and the state subsidy). This means that programs may not charge any fees to make up the difference between their published private rate and the state rate or for any fees the program may typically charge private paying families for specific or additional services.¹⁸ EEC public policy has regulated these additional fees for families receiving subsidies because such fees, when added to the family's determined parent co-payment, may be prohibitive and render care unaffordable, and thus, inaccessible. This policy provides important protection to the low-income families who receive early education and care subsidies, ensuring that parent fees are affordable and, thus, the program continues to meet its purpose, which is to ensure access to care for families who would otherwise be unable to participate in the market because of high rates. This policy also prohibits providers from addressing gaps between the private and state rate through the collection of parent fees.

Altogether the impact of insufficient public reimbursement for early education and care services may take a toll on early education and care program operating budgets. Few researchers have fully examined the operating costs of child care centers despite the importance of its implications. What we do know is that tuition fees comprise the largest single source of revenues for child care programs of which personnel costs are the largest single cost.¹⁹ In fact, on average, labor accounts for 72 percent of expenditures in child care centers.²⁰ As such, one potentially negative consequence of reduced revenue tied to the public purchase of early education and care slots may be constrained staff salaries and benefits.

This could be troubling since adequate staff compensation has been identified as one of the keys to improving the quality of early education and care. Research has consistently demonstrated links between teacher compensation and program quality, making a compelling argument that inadequate compensation may indeed impact the quality of early education. Recruiting and retaining qualified teachers ranks as one of the most significant barriers to providing high-quality preschool care. Further, evidence has shown that low wages and benefits associated with preschool teachers leads to staff turnover.²¹ Experts assert that high staff turnover rates negatively affect children's learning and development. Together, poor compensation and high turnover pose significant challenges to the delivery of high quality care.

Further, a growing body of research indicates that teacher education attainment and specialized training in early education affect the quality of early education and care settings.²² Thus to provide quality care to children, programs often need resources to fund education and training for their staff, as

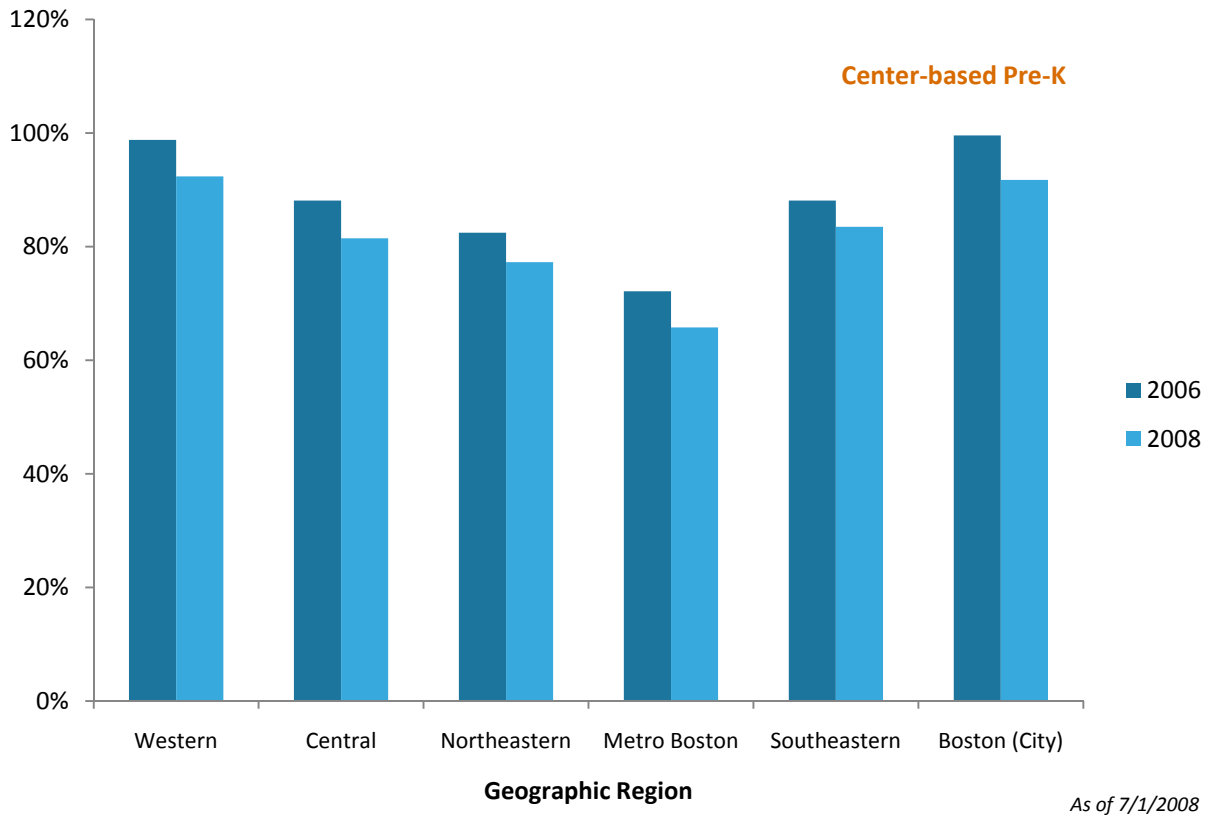
well as the capacity to pay salaries that allow them to hire teachers with the appropriate levels of education.

Unlike other industries where costs associated with higher staff compensation can be passed on to the consumer, early education and care costs are difficult to shift to private paying consumers in most low- to moderate-income communities where most families already struggle to cover the cost of care.²³ In general, families often cannot afford private rate increases which may be needed to offset any foregone revenues associated with rate differentials caused by state rate disparities. Many programs chose to accept subsidized slots which are reimbursed at rates lower than their own private market because they need to fill slots, particularly if they are located in a low- to moderate-income area, where families needing early education and care subsidies comprise a large part of the program demand. If a program has a high percentage of subsidized slots, they have fewer private paying families to whom they can shift costs. Further, as mentioned earlier, per state policy, providers are unable to charge subsidized families any additional costs over what the state has deemed an appropriate, affordable parent co-payment, and as such, is not permitted to shift any costs in this manner. In contrast, programs in higher income communities tend to have fewer subsidized slots, mostly because they have fewer eligible families in their service area and they can fill their private slots at a much higher rate (often at or above the 75th percentile of the market). A program that only serves a handful of subsidized families has more private paying families onto whom any additional costs may potentially be shifted. Programs that serve low- to moderate-income families have little room to cost shift.

Nonetheless, programs which tend to have a high proportion of state-subsidized slots often have operating budgets that are very lean and leave little room for much-needed quality investments. Low state reimbursement rates may push them further to the margins of their operating budgets. Limited resources often mean these programs are less able to make important investments in a well-trained and well compensated early education and care workforce. Because they have little extra revenue, some programs experience challenges in providing salaries commensurate with the skills and education needed to provide high quality early education and care.

Further, constrained public reimbursement for early education and care services may impact the supply of providers willing to accept state subsidies.²⁴ The greater the gap is between the state early education and care provider reimbursement rate and the federally suggested accessibility benchmark, the more access to early education and care for low-income families is constrained. As early education and care provider costs have been rising,²⁵ state reimbursement rates have been stagnant. In fact, as shown in Chart 5 below, state reimbursement rates as a percentage of the median market rate dropped between 2006 and 2008, meaning the gap between public and market rates has worsened. Experts recommend that more state reimbursement rates that are more commensurate with the market and regular increments for rate increases may help existing providers to keep their businesses open and further expand the supply of quality care.²⁶

Chart 5: State Rate as a Percentage of Median Market Rate Has Declined: 2006 to 2008



So, although the state is able to purchase early education and care slots at a rate far below that paid by a typical private paying family, the cost savings may have detrimental consequences on both the supply and delivery of quality early education and care accessed by families within the subsidy system. State reimbursement rates that better reflect the surrounding market may not only maximize access to the majority of the early education and care market for families receiving subsidies, but also provide early education and care providers the resources they need to keep their programs open and support important quality investments, such as higher teacher salaries.

Comparing Public and Private Payments for Health Care in Acute Hospitals

Health care is an area in which it is very clear that there is a difference in how much government – the public sector – pays compared to the private sector. Based on data from FY 2008, we compared the public sector payment rate for acute care hospital services to the private sector payment rate for those same services. We found that the public sector (specifically the Medicaid and Commonwealth Care health insurance programs) overall paid 80 percent of the payment rates paid by private sector health insurance companies to acute care hospitals in Massachusetts in FY 2008.

Government purchases health care services at a significantly lower rate than the private sector purchases the same services. In fact, by controlling costs so aggressively for the public sector, government payment rates may actually cause problems for other payers. When the public sector pays less than the private sector, there is a risk that the value of health care costs not reimbursed by the public sector gets “shifted” onto the rates charged to the private sector. This separate issue has important implications for health care policy, but is not the focus of this paper.

PUBLIC AND PRIVATE HEALTH CARE

In order to understand these differences, it is important to clarify what we mean by “public sector health care” and “private sector health care.” For the purposes of this report, the distinction we are making is between publicly- and privately-funded health insurance. There are three major categories of publicly-funded health insurance in Massachusetts: the Medicaid or MassHealth program, the Commonwealth Care health insurance program, and the Medicare program.²⁷ This insurance can be provided in what is referred to as “managed care” (also known as “pre-paid” or “capitated” care), or in “fee-for-service” programs.²⁸

Private health care consists of the dozens of commercially available health insurance products, often provided through places of employment, or purchased in the private health insurance market. Like public health insurance, private insurance can also be provided in pre-paid or capitated programs or in fee-for-service programs.

Interestingly, the managed care within the Medicaid program and the Commonwealth Care program is provided by private health insurance companies that have negotiated contracts with the Commonwealth to provide care to eligible members. Although the distinction then between public and private health insurance is not always obvious, the public sector health insurance is paid for with public dollars, while private sector health insurance is not.

This particular analysis of Massachusetts health care payments does not go into explanations as to *why* public health care payments to acute care hospitals differ from private health care payments. There are significant differences in how public and private insurers determine the payment rates that are made to health care providers.

Nevertheless, in asking the question whether the government pays more or less than the private sector of services, the health care case can provide a very clear example of different payments for identical services. Imagine the following scenario: Two people with fevers of 103° check into the emergency

room. One of these people has MassHealth insurance; the other has a private insurance plan. Both patients check in with the intake receptionist. Both patients wait in the same waiting room until they are called. Both patients are called into examining rooms. The same emergency room nurse charts the vital signs of both patients. The same emergency room doctor evaluates both patients. If they need blood work, the same phlebotomist gives them the blood test, and the results are sent to the same lab. These two patients, with different health insurance providers, receive identical care in the hospital. Accordingly, if the hospital is reimbursed differently for the patient on MassHealth compared to the patient on private health insurance, the difference is a function of reimbursement policies from the insurers, not because the actual care provided is different.

PREVIOUS STUDIES OF PUBLIC AND PRIVATE PAYMENTS FOR HEALTH CARE

Over the past decade there have been a number of studies, in both Massachusetts and nationally, comparing public and private payments for health care. Although many of these studies have a different focus than the particular focus of this paper, the research they cite confirms that there are significant differences between public and private sector payment rates for health care.

A study comparing private insurance costs and the costs of the Medicaid program finds that after controlling for the health of the individual covered:

Medical costs paid by insurance are higher under private coverage than under Medicaid. Average medical costs paid by an insurer on behalf of an adult Medicaid beneficiary would be 7 percent, or \$360, greater on average, if the beneficiary were covered instead by private insurance. Similarly, the average amount paid by an insurer for a child Medicaid beneficiary would be 8 percent, or \$66, higher if the child were enrolled in private insurance.²⁹

The conclusions in this study note that “provider payments in Medicaid tend to be lower than in private insurance” and that “[m]odest increases in Medicaid provider payments could improve patients’ access to and quality of care. Even if Medicaid payments were increase somewhat, medical spending under Medicaid would likely remain lower than under private coverage.”³⁰

Another of the studies on private and public payment rates is a 2008 study by the Milliman consulting group. This study confirms that the public sector pays less than the private sector for health care. Unlike many studies, this national analysis included physician payments as well as hospital payments in its review. Specifically, this study determined that within the hospital reimbursement system, private sector payments are increased relative to public sector payments in order to make up losses associated with lower public sector payment rates. The study of hospital and physician payments in 2006 showed that “while hospitals posted a 3.8% overall operating margin in 2006, it was composed of a 23.1% margin on commercial [private] payers offsetting large losses on public payers and self pay.”³¹ This study states that hospitals showed a 14.7 percent operating margin loss on Medicaid payments, and showed a 9.4 percent operating loss on Medicare payments.³² The study further states that “the estimated cost shift from public to private payers of \$88.8 billion [nationally in 2006 for hospitals and 2007 for physicians] is estimated to 15% of the current amount spent by commercial payers on hospital and physician services. Stated differently, if there were no cost shift, commercial hospital and physician costs would be 15% lower.”³³

A frequently cited study commissioned for the Commonwealth in FY 2001 also documents low Medicaid reimbursement rates. This analysis, completed by the Lewin group for the Secretary of

Administration and Finance and the Legislature, relies primarily on secondary data sources, and cites several other studies. The Lewin study concludes that Medicaid payments have historically reimbursed hospitals at rates that are below the hospitals' costs.

The Lewin study refers to a measure called the "payment to cost ratio," which is a comparison of payments made by insurance providers to the estimated costs of the services for which those payments are being made. It states: "The American Hospital Association Annual Survey indicates that Medicaid payments in Massachusetts are approximately 22.4 percent below cost (for a payment to cost ratio of 0.78). The [Massachusetts] Division of Health Care Finance and Policy also analyzed Medicaid payment-to-cost relationships and found payments to be 24 percent below cost."³⁴ The Lewin study then also conducts a detailed analysis of hospital cost reports, and found that "The system has led to Medicaid payments well below the cost of care, particularly for outpatient services. While inpatient payment to cost ratios are at 0.81 or above (depending on the service and calculation methodology), outpatient payments appear to be below 60 percent of cost."³⁵ Although "payments declined relative to cost for private payers from 1992 through 1998, but . . . increased slightly in 1999," these private sector payment to cost ratios remained relatively larger than the payment to cost ratios for Medicaid during this period.³⁶

A national study analyzing community hospital data from the American Hospital Association also confirms these findings. This study showed that while the payment to cost ratios for Medicaid payments ranged from a low of 80 percent to a high of 97 percent during the period of 1990 through 2008, the private insurance payment rates during that same period ranged from a low of 115 percent to a high of 132 percent. Notably, this survey shows that the gap between Medicaid payment to cost ratios and private payment to cost ratios steadily increased from 1998 through 2005. In 1998, there was a 19 percentage point difference between the Medicaid and private payment to cost ratio, but by 2005, this gap more than doubled to 42 percentage points. Between 2005 and 2008, the gap began to narrow slightly.³⁷

PUBLIC AND PRIVATE PAYMENTS TO ACUTE CARE HOSPITALS

Our findings looking at specific recent data in Massachusetts mirror those of previous studies in Massachusetts and across the country. At Massachusetts acute care hospitals, in almost all instances, public health care payers pay at a rate significantly lower than the rate paid by private payers for the same services. The difference may vary somewhat by whether the insurance is fee-for-service or not, or whether the hospital receives special supplemental payments, but overall the public payment rate is significantly less than the private payment rate.

METHODOLOGY

Our analysis looks at acute care hospitals in particular because payments to acute care hospitals represent one of the largest shares of health care spending in Massachusetts and nationwide. An acute care hospital is one in which treatment is typically provided in the short term, with the goal of diagnosing and treating the patient, and discharging that person as soon as is appropriate. Acute care hospitals are distinguished from long-term or rehabilitative care facilities. Nationally in 2009, of the \$2.5 trillion spent on health care services, close to one-third of that total was spent on hospital care; acute hospitals in turn represent the largest share of these expenditures.

There are 66 acute care hospitals in Massachusetts, ranging from small community hospitals with annual patient revenues of close to \$20 million, to large Boston teaching hospitals with patient revenues

of more than \$1.7 billion. Although statewide in FY 2008 close to half of total acute care hospital revenue came from public payers, this share varies widely among the hospitals. There are hospitals for which dollars from publicly-funded insurance payments make up just over one-quarter of their total patient revenues (for example, the Newton-Wellesley community hospital), and hospitals that are heavily reliant on public dollars (for example, the Holyoke Hospital, where close to 70 percent of patient revenues in FY 2008 came from payments for services provided to patients insured by the Medicare, Medicaid and Commonwealth Care public insurance programs.) For the hospitals whose patients rely heavily on the publicly-funded health insurance programs, the relationship between the public payment rates and the private payment rates is particularly important.

In order to analyze the public and private health care marketplace, we look at public and private payment rates to the Commonwealth's acute care hospitals in Fiscal Year 2008.³⁸ We compare the payment rates for the various public payers – both what is referred to as “non-managed care” and “managed care” (or fee-for-service and not fee-for-service) – and see how they compare to the payment rates for the private insurers.

The “payment rate” used in this analysis starts with payments made by government programs and the private sector to the hospitals. Simply put, the insurance providers (either the private insurance companies or the state or federal government for the public health insurance programs) pay hospitals for providing health care to the people who carry their particular health insurance. The hospitals receive these payments as reimbursement revenue for their services.

We compare the payments made by public and private sector insurance to the hospitals' charges and estimated costs. The amounts that the insurers pay are based on a particular percentage of the “charges” that the hospitals levy to the insurance companies for those services. Charges are like “list prices” for services, but are not necessarily the same as the estimated “costs” of the services provided, nor are they necessarily the same as the amounts requested from the insurance providers as payment. In fact, each insurance provider may receive a different “discount” off the set charges for each type of health care service from each hospital or set of hospitals. Our analysis compares these discounts received by public insurance programs with the discounts received by private insurance programs.

Each hospital has its own methodology for developing charges for a service provided, and those charges relative to the costs of services are often different for outpatient or inpatient services or for routine or non-routine care.³⁹ We therefore make these calculations for each hospital, looking at outpatient, inpatient, routine and non-routine care in order to take into account these variations in the patient populations and services provided across the Commonwealth. (See Appendix I for further discussion of the methodology used.)

After making calculations for each hospital, we are then able to create statewide averages that we refer to as the “payment rate” – a comparison of payments to charges and estimated costs. We then compare the payment rates for public sector insurance programs to the payment rates for private sector insurance programs. This allows us to determine whether or to what extent the public sector pays less than the private sector. We focus in particular on the state's two public sector programs: the Medicaid program and Commonwealth Care. For this analysis we compare the payment rate for Medicaid and Commonwealth Care to private insurers, and we also compare just the Medicaid program and private insurance payment rates broken down by whether they are fee-for-service or not .

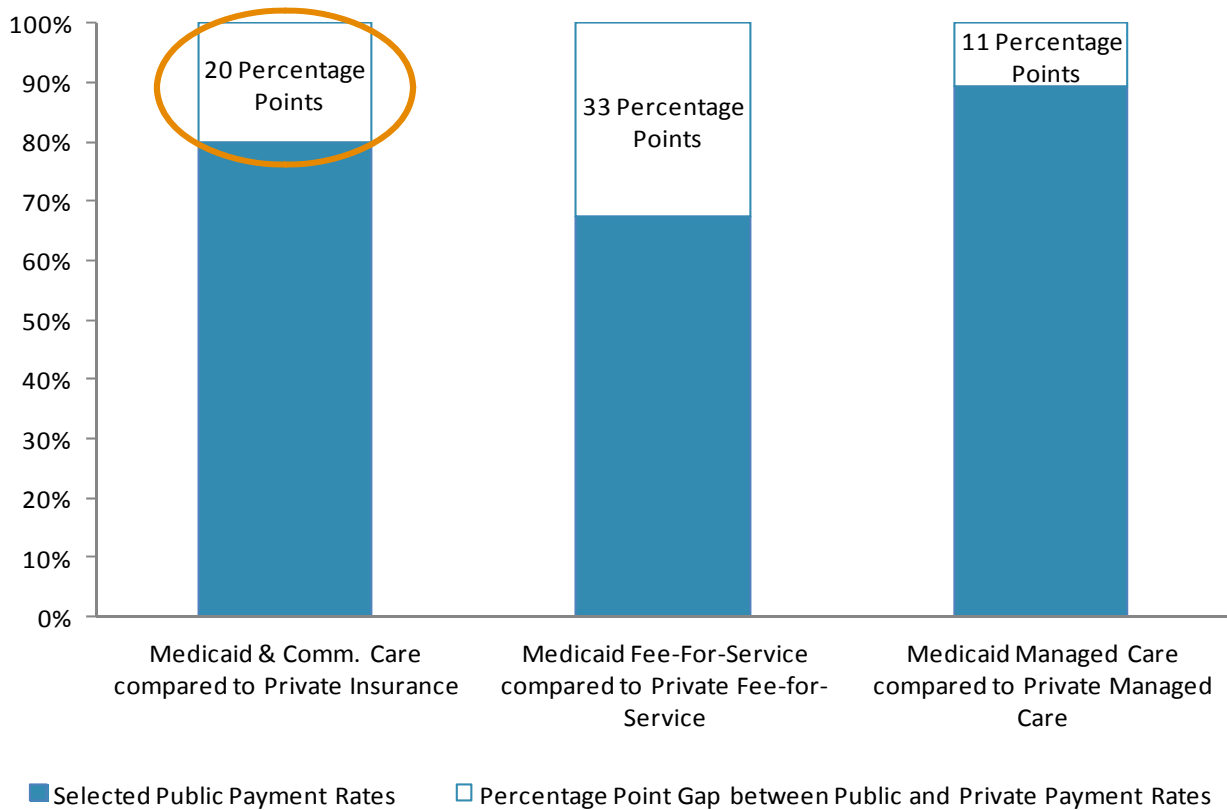
FINDINGS

The data show that overall Medicaid and Commonwealth Care together pay at a rate that is 80 percent of the rate paid by private sector payers. This overall total includes both what is referred to as managed care and fee-for-service insurance. In other words, if two people – one with privately-funded health insurance and one with publicly-funded health insurance – walk into a hospital and receive identical services and identical care from the same hospital personnel, the hospital could be reimbursed \$1,000 for the costs of care of the person with privately-funded health insurance, and \$800 for the costs of care of the person with publicly-funded health insurance.

The overall average – that public payers pay 80 percent of what private payers pay – provides the clearest and most accurate picture of how public and private payment rates compare. It is possible, however, to look in more detail at subsets of the data and separately examine the payments rates for fee-for-service programs and the “managed care” programs. Although this more detailed analysis can help provide a more detailed picture of public and private payment rates, the data become slightly less reliable because it is not always clear whether these distinctions are consistent across all hospitals (see Appendix I).

Reporting for Medicaid “fee-for-service” only includes what is known as the Medicaid primary care clinician program and payments directly from Massachusetts Medicaid. Reporting for Medicaid “managed care” includes the remaining Medicaid programs. Reporting for the private insurance programs is similarly delineated.⁴⁰

Public Payment Rates are Below Private Payment Rates



If we look just at the Medicaid fee-for-service payment rate, and compare it to the private insurance fee-for-service payment rate, the difference between the private payment rate and the public payment rate is more pronounced. In this instance, the Medicaid fee-for-service payment rate is 67 percent of the private insurance fee-for-service payment rate. For the insurance programs that use “managed” (i.e. pre-paid or capitated) care, the Medicaid program payment rate is 89 percent of the private payment rate. It is important to note that there may be inconsistencies with how individual hospitals actually report whether a payment was received under “managed care” or “non-managed” care, and certain lump sum payments may get reported as “managed care” or “non-managed care” but may not necessarily be used in that way (see discussion below). Accordingly, the difference between the fee-for-service rates and the “managed care” rates is not the subject of this analysis, and the “true” differences may be either more or less than reported here. Our intention here is simply to point out the differences between public and private payment rates in each of the categories examined.

Because the public sector payment rates are lower than the private sector payment rates, this difference is particularly significant for those hospitals that provide for the most-need. In particular, there are the “disproportionate share hospitals” (DSH) whose patients are primarily supported by public health insurance programs.⁴¹

WHAT HAS BEEN HAPPENING SINCE FY 2008

Even though one intention of the Massachusetts health care reforms was to more closely equalize public and private health care reimbursement rates, budgetary constraints and the fiscal challenges created by the recent recession have likely widened the payment gap since FY 2008. These issues of payment reform continue to dominate the public debate about health care costs.

During the recent state budget debates, although there has been extensive discussion about significant reforms in health care finance in the longer term, shorter-term initiatives have included reductions in the direct supplemental payments to safety net hospitals, as well as slowing down MassHealth payments to hospitals in order to save money. These reductions have meant that hospital rates may not have kept pace with hospital costs or inflation.

To illustrate the continuing constraints placed on public payments for hospital services since FY 2008, it is useful to look at the methodology used by the Commonwealth to set payment rates for Medicaid inpatient fee-for-service. This payment is based in part on what is known as the Standard Payment Amount per Discharge (SPAD). This amount is a hospital-specific payment rate that is based on a formula developed by the state. Since FY 2008, the methodology used by the Commonwealth to determine payment rates has changed, resulting in relative reductions in payment rates paid by the Commonwealth for publicly-funded health insurance.

Since 2008, inpatient fee-for-service payment rates have been cut in several significant ways. These cuts included changes in the calculation of the inflation rate, a lowered cap on the payment rates, a shift in the base year on which rates are calculated, and elimination of special waivers and payments for certain types of hospitals.⁴²

INFLATION RATES

The SPAD for each hospital is based on several factors, including an annual inflation adjustment. One of the factors that affects the payment rate is the inflation adjustment used by the Commonwealth. The federal government estimates hospital inflation rates each year as part of their administration of the federal Medicare program. This inflation rate, known as the “CMS market basket” estimates inflation each quarter for inpatient care at acute care hospitals.⁴³ In some instances, the Commonwealth simply takes this national inflation rate estimate and applies it to the acute hospital inpatient SPAD. For example, this is how the Division of Health Care Finance and Policy determines inflation for capital costs.

In 2008, the inflation rate used by the Commonwealth for inpatient reimbursements was 3.3 percent. This was a notable increase from the prior years’ rates of 1.8 percent in 2006 and 1.6 percent in 2007. In 2006 and 2007, the Commonwealth calculated inflation using a blend of the CMS market basket inflation rate and the Massachusetts Consumer Price Index (CPI). In these calculations, the Division of Health Care Finance and Policy substituted the Massachusetts CPI for the labor-related component of the CMS market basket. This modification creates a lower inflation rate than using the federal rate.

On the other hand, for the price changes between 2007 and 2008, the Commonwealth used the higher (non-modified) CMS market basket inflation rate, having a notable impact on payment rates. However, in 2009 in order to cut health care spending, the Commonwealth mid-year returned to the modified (lowered) inflation rate methodology. From October to December 2008, the inflation rate built into the SPAD was 3.0 percent, based on just the CMS market basket. In December, however, the inflation rate

was re-adjusted downward to 1.4 percent, with the return to the methodology in place in prior years. As seen in the table below, the inflation rate used by the Commonwealth has – in the last few years – been below the CMS market basket rate.⁴⁴

	CMS Market Basket Rate	Inpatient Hospital Payment Inflation Rate
2008	4.0%	3.3%
2009	2.1%	3.0%/1.4%
2010	2.3%	0.7%
2011	2.5%	1.8%

Sources: CMS Market Basket Rate from the Centers for Medicare and Medicaid Services, Quarterly Index Levels in the CMS Prospective Payment System; Inpatient Hospital Payment Inflation Rate from Mass. Office of Medicaid, Notices of Final Agency Action.

LOWERED CAP ON PAYMENT RATES

The payment rates for hospitals also include what is known as an “efficiency standard,” which sets a cap on hospital costs. Since FY 2008, there has been a significant drop in the efficiency standard cap on hospital costs. In FY 2008, the Commonwealth capped its calculation of estimated costs (weighted by MassHealth discharges) at the 90th percentile statewide. In 2009, however, the Commonwealth cut the hospital cost component of the SPAD calculation to the 75th percentile of the averages statewide. By reducing this cap, the state inherently dropped the payment rate for some hospitals participating in its publicly-funded insurance programs.

SHIFT IN THE BASE YEAR


In an effort to update and increase hospital payment rates, the Commonwealth at the beginning of 2008 switched the base year on which payments were based from 2003 to 2005. For 2009, the Commonwealth began by updating the base year from 2005 to 2006. In December 2008, however, in order to cut health care spending, the Commonwealth returned the base year to 2005, and it has remained there since.

ELIMINATION OF SPECIAL PAYMENTS AND WAIVERS

There are other significant adjustments to the payment rates that have affected public sector hospital payments since FY 2008. Many of these adjustments have included the elimination of special payments, special rate waivers, or other rate enhancements.

For example, in FY 2008, reimbursement for acute care hospitals included an adjustment for what is known as “direct medical education” to reimburse hospitals for costs associated with faculty and residents in graduate medical education programs. For 2008, in fact, perhaps to provide incentives for primary care, the Commonwealth restored a rate enhancement in direct medical education for primary care. In FY 2010, however, reimbursement for direct medical education was eliminated from the payment formula. Furthermore, prior to 2009, certain hospitals had been exempt from the hospital cost “efficiency standard” (see above). Part way through FY 2009, this special waiver was eliminated. In 2008, hospitals received payment for what is referred to as “outliers,” the costs associated with patients who remain in the hospital for longer than a specified amount of time. These payments have been steadily reduced, in particular since 2010 when the outlier “adjustment” was reduced from 95 percent to 90 percent. In 2011, these payments have been eliminated entirely.

There is a separate methodology for determining rates for outpatient hospital services. These, too, have changed since FY 2008. For example, in FY 2009, the Commonwealth eliminated special rate increases



in its outpatient payment formula for certain hospitals exempt from what is known as prospective payment systems.

Who Pays More for School? Comparing the Costs of Public and Private K-12 Education in Massachusetts

Unlike markets where government money and private money purchase identical services that can be compared side-by-side, such as with Medicaid payments and child care vouchers, educational services within public and private sectors vary significantly, making definitive comparisons quite difficult. Public schools are funded primarily through tax dollars at the local, state, and federal level, and public schools are generally open to all students in the community. Private schools, on the other hand, operate completely outside of public school systems and are funded through tuition, endowments, and other forms of private philanthropy. The core functions of public and private schools are nonetheless fundamentally very similar, so with a careful allocation of costs for equivalent services, this chapter aims to make some instructive, while still imperfect, comparisons.

For the purposes of this paper, we set aside an investigation of revenue sources and funding levels and look exclusively at the spending side. Since private schools by their nature are independent institutions, their data reporting systems are all quite different and what data do exist are rarely made available in similar formats to facilitate direct comparisons. The primary data source on the private school side is individual schools' Internal Revenue Service (IRS) Form 990, the only annual financial report required of tax-exempt organizations.⁴⁵ Through their 990s, private schools are required to include complete aggregate spending data, but there is little detail required for describing specific functions. Tuition costs were obtained from school websites, and enrollment numbers were provided by the Association of Independent Schools in New England (AISNE).

Public schools districts, alternatively, must report detailed spending data to the parent governments that provide most of their funding, and this information is made available publicly. The primary data source for public school spending used in this paper is the end of year spending report collected by the Massachusetts Department of Elementary and Secondary Education (DESE). DESE gathers spending information for all public school districts that includes the expenditure of funds appropriated from local, state, and federal governments, as well as other grant contributions.

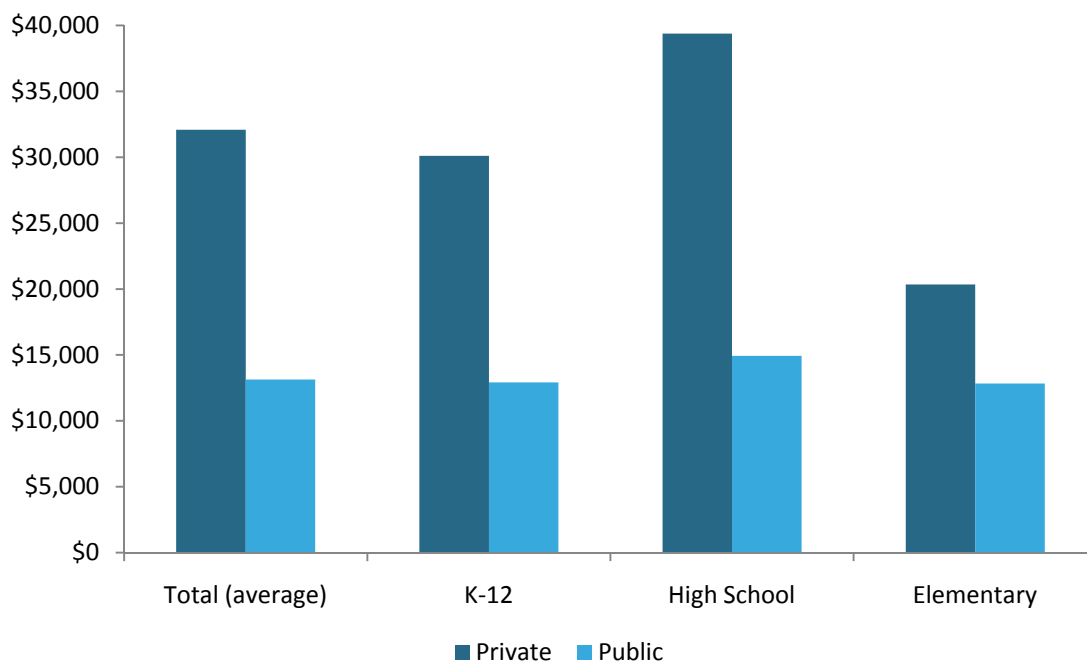
Religious-affiliated private schools, not governed by a free-standing board of trustees, are not required to file 990 spending reports with the IRS. The absence of a standardized public reporting system makes accurate expenditure calculations nearly impossible and forces us to exclude them from this paper's spending comparisons. Excluding religious-affiliated schools is unfortunate because they represent a majority of private schools – 68 percent of private schools nationwide⁴⁶ – and because they often serve lower-income students than do non-religious private schools. Religious-affiliated schools, particularly Catholic schools, are thought to spend less per pupil than non-religious schools, although some of the cost difference is likely a result of in-kind service and facility contributions made by the parent religious organization.

PRIVATE SCHOOLS SPEND MORE PER STUDENT THAN PUBLIC SCHOOLS

Based on spending data available for the 2007-2008 school year, Massachusetts public schools spend less than half of what non-religious private schools spend. (Please see the later section entitled "Making a fair comparison" for detailed information on research methodology.) Average private school spending of roughly \$32,000 per student is 144 percent higher than average public school spending of approximately \$13,000 per student.

Private Schools Spend More Than Public Schools in Massachusetts, 2008

Per pupil expenditures, including capital costs



Spending in private schools varies widely. Standalone high schools spend almost twice as much as standalone elementary schools—\$39,000 versus \$20,000 per student.⁴⁷ The chart below provides more detail on private school spending across these categories (including and not including capital spending).

Massachusetts Private School Per-Pupil Spending, 2008

(# of schools for which data were available)

	Including capital costs	Not including capital costs
Total average (92)	\$32,084	\$28,555
Total median (92)	\$25,372	\$23,312
K-12 Schools (5)	\$30,112	\$26,868
High Schools (42)	\$39,386	\$34,705
Elementary Schools (42)	\$20,347	\$18,713
Middle Schools (3)	\$22,479	\$19,225

The chart below provides more detail on public school spending across these categories (including and not including capital spending).

Massachusetts Public School District Per-Pupil Spending, 2008

(# of districts for which data were available)

	Including capital costs	Not including capital costs
Total average (328)	\$13,142	\$12,101
Total median (328)	\$12,278	\$11,214
K-12 Districts (208)	\$12,915	\$11,893
High School Districts (19)	\$14,934	\$12,911
Elementary Districts (71)	\$12,827	\$11,781
Vocational Districts (30)	\$18,929	\$18,268

MAKING A FAIR COMPARISON

In order to achieve a fair comparison across public and private schools, we had to ensure that spending categories included in our calculations were dedicated to a similar batch of educational services. Where applicable, for example, a portion of total private school costs that serve boarding functions (e.g. housing, feeding, and supervising) were excluded from our calculations. Many of Massachusetts' private schools accommodate a population of students who live on campus full time, and since no public schools serve this function, including these specific costs would skew a comparison.⁴⁸ Similarly, fundraising costs for private schools were excluded since, for the most part, public schools receive annual appropriations in a more regular manner from different levels of government.⁴⁹

Certain cost categories were also separated out from the public school side of the equation. Most significantly, tuition costs were separated out for all public school pupils sent out of district to special education schools, specialized vocational schools, and charter schools. These tuitions are paid by public school districts but they purchase educational services that are provided elsewhere outside of their oversight, rather than within the school district in question. Special education schools for out-placed students serve the neediest of students with a level of instructional intensity that is fundamentally different from that in a traditional school setting. These special education schools are actually private schools that serve students whose tuitions are publicly funded. Specialized vocational schools, such as agricultural schools similarly offer an educational experience that is substantially different due to equipment and instructional needs. Charter schools, alternatively, do perform traditional educational functions, but they spend district money outside of its management oversight making it inaccurate to include their operations in this comparison. In generating per-pupil expenditures on the public school side, the total number of public school students for whom these tuitions are being paid was also subtracted from pupil totals.

INCLUDING CAPITAL COSTS

Since classroom buildings and durable equipment are necessary components of providing educational services, capital costs are included in this paper's per-pupil calculations. Capital costs are typically high at the beginning of a project, or when making an initial down payment on large equipment. Schools and districts embark upon capital campaigns over different time horizons, leading an annual snapshot of expenditures to overstate spending for those who are investing in capital at the front end of a cycle.

Due to the lumpy nature of capital spending, these costs are often excluded from standard per-pupil expenditure reports because they can skew comparisons, particularly if different schools are at different points in capital campaign cycles.⁵⁰ The purpose of this paper, however, is to compare state-

level data, so including school-level capital spending should smooth out on the aggregate for the purposes of calculating statewide averages.

SEPARATING OUT OTHER SUPPLEMENTAL PROGRAMS

IRS Form 990s instruct private schools to allocate costs for each of their major organizational functions, but do not require that they do so, and most schools instead include one lump sum of costs for all program services. The absence of detail makes paring down private school costs to the core educational components quite a challenge. Some schools do separate out costs of after school programs, summer camps, and school stores, and for those that do, they have been taken out of this report's calculations.

Total expenditures for public schools also include some costs that ideally would be separated out of this report's calculations – such as a few limited summer school and adult basic education programs – but they are difficult to identify without going through school district budgets one-by-one, and they are likely to be relatively small compared to the supplemental programs offered at private schools. Because only some supplemental programs costs are able to be separated from the private side and because separating them out on the public side is so difficult, these programs are included on the public side.

FULLY ACCOUNTING FOR RETIREMENT COSTS

Employer contributions toward retirement should be included in total expenditures because they are labor expenses that ultimately serve the education of children. Private schools mostly contribute towards retirement through 401(k) contributions and Social Security taxes that, while not itemized, are included in program service expense reports on their 990s. On the public school side, however, employer retirement contributions are typically not included in district budgets because the state pays for Massachusetts teacher pensions (including guidance counselors, librarians, paraprofessionals, and other certified professional staff) and cities and towns pay for the pensions of non-professional staff (e.g. custodians and clerks) through municipal retirement boards.

For this paper, state retirement contributions for professional staff – the vast majority of employees in school districts – were obtained from the Massachusetts Teachers' Retirement System (MTRS) and the Boston Retirement Board, which funds Boston teacher pensions, and added onto public school total expenditures.⁵¹ Because the amounts are small and because it is impractical to gather data from every separate municipal retirement board in the state, pension contributions towards non-professional staff were not included in this paper.

IN-KIND CONTRIBUTIONS

While reporting practices make tracking impractical, in-kind contributions – both free services and goods – would ideally be included in total school expenditures. Schools often rely upon volunteer tutors, parent organizing, and supply donations in order to function year-to-year. In-kind contributions can be particularly substantial at private religious schools where facilities may be donated, offsetting major capital costs, and where teachers are sometimes unpaid or low-paid members of the parent religious organization. Furthermore, boarding faculty at independent private schools often receive reduced salaries in return for free room and board on campus, lowering the reported labor costs of these schools. In this analysis we do not include any calculation of in-kind contributions for either public or private schools.

WHAT EXPLAINS THIS SPENDING DISPARITY?

If Massachusetts private schools spend over twice as much per student as public schools, what are they getting in return? This section explores some likely explanations for this \$19,000 spending disparity. It should be noted that this section does not provide definitive explanations of all different cost drivers, but rather serves to offer general guidance for thinking about the different educational experiences funded in the two settings.

While 990 IRS tax returns for non-religious private schools serve as the primary data source for comparing public and private school spending, the National Center for Education Statistics's (NCES) Private School Universe Survey provides some useful demographic, enrollment, and staffing information on Massachusetts private schools, and relevant data are included below. Where possible, data on Catholic and other religious-affiliated private schools are also included.

LOWER STUDENT/TEACHER RATIOS

Lower student/teacher ratios enable teachers to provide greater individual student attention, costing significantly more money since more teachers are required to educate a given number of students. As indicated in the table below, an average public school teacher in Massachusetts serves 5.7 students more (72 percent more) than a teacher in a non-religious affiliated private school. Paying for these extra teachers, so that each individual student enjoys significant individual instructional support, requires a significant financial investment.

Private school data in the following student/teacher ratio table are based upon the NCES Private School Universe Survey. The "Non-Religious" category refers to non-religious affiliated schools surveyed by NCES. While there is significant overlap between schools in this category and the group of non-religious affiliated private schools for which 990s spending reports were available, the two sets of schools are not identical.⁵²

Public Schools Have Higher Student/Teacher Ratios Than Private Schools in Massachusetts, FY 2008

		Student/Teacher Ratio
Public	All	13.6
Private	All	10.5
	Non-Religious	7.9
	Catholic	14.4
	Other Religious	10.9

BETTER FACILITIES

According to this report's spending analysis, capital spending composes 11.1 percent of private school spending, and 7.9 percent of public school spending in FY 2008.

This additional capital spending, particularly at elite private schools, would allow them to fund better resourced school facilities. Private school buildings are often better maintained and boast learning

environments that are generally more comfortable and less crowded. Private schools also likely tend to have more computers available per student and have more cutting edge art and athletics equipment.

MORE ROBUST ENRICHMENT PROGRAMS

Lower student/teacher ratios at private schools in part help fund more robust enrichment programs and non-core academic classes that have greater associated costs. More extensive arts programs, particularly in high schools, have greater materials costs as well as higher capital costs for durable equipment such as kilns, dark rooms, and performance spaces. Furthermore, labor costs of enrichment programs are often higher at private schools, since more teachers are required to lead these programs, which are often offered more frequently during the school week.

ONE AREA WHERE THE COST DIFFERENCE IS UNDERSTATED: DIFFERENT STUDENT POPULATIONS

Public and private schools educate different student populations serving wide ranging needs, and, in general, public schools serve a greater proportion of high-needs students. If more detailed information were available on the incomes of private school families, we could correct for student need, and the effective gap between public and private school spending would likely grow wider.

Students of greater need are more expensive to educate as it takes more resources to provide for them adequate services. In fact, the Chapter 70 funding formula for distributing state education aid to Massachusetts’s cities and towns allocates additional money for every limited English proficient student and low income student enrolled in a given district. Students with limited English require more intense one-on-one instructional time in order to catch up to their English-speaking peers and low-income students often require similar supplemental services in order to compensate for a lack of additional resources for continuing learning at home. The table below shows the incremental costs assumed by the state’s foundation budget for these demographic groups in FY 2008.

Massachusetts's Foundation Budget Recognizes that Some Students Cost More to Educate

Foundation budget rates per pupil, FY 2008

	Additional Operating Expenditures
Limited English	\$8,003.07
Low Income Elementary	\$2,988.17
Low Income Secondary	\$2,416.40

In Massachusetts, roughly one-third of public school students are low-income and 15.6 percent of public school students speak a first language other than English. For the purposes of this report, students are considered to be from low-income families if they qualify for either free or reduced lunch through the National School Lunch Program, which offers the best available measure of a family’s income.⁵³

Unfortunately, private schools do not report uniformly any demographic data on their student populations. The best available source of information is survey data submitted voluntarily through the National Center on Education Statistics’s Private School Universe Survey, which is collected every two years.⁵⁴ The table below compares Massachusetts public school demographics to those of the state’s private schools, based upon NCES data.

Student Demographics, FY 2008

	Public	Private			
		Nonsectarian	Catholic	Other Religious	All
White	70.8%	79.9%	82.8%	81.0%	81.0%
Hispanic	13.9%	5.5%	6.0%	5.8%	5.8%
Black	8.1%	7.2%	6.8%	7.6%	7.6%
Asian/Pacific Islander	5.0%	7.3%	4.2%	5.4%	5.4%
Multi-Race, Non-Hispanic	1.9%	n/a	n/a	n/a	n/a
American Indian	0.3%	0.2%	0.2%	0.2%	0.2%
Free/Reduced Lunch	32.9%	n/a	n/a	n/a	n/a
First Language not English	15.6%	n/a	n/a	n/a	n/a
Limited English Proficient	6.2%	n/a	n/a	n/a	n/a

WHAT DOES THE DATA ON PER-PUPIL COSTS SUGGEST ABOUT THE QUALITY OF EDUCATION PROVIDED BY PRIVATE SCHOOLS?

Basic economic theory tells us that if a good or service of a particular quality can be produced for less money and offered at a lower price to consumers, market competition will pressure firms to do so. If over a period of time, a firm charges prices well above the lowest cost at which a particular level of quality can be achieved, new firms will identify a profit-making opportunity, enter the market and compete for existing customers by providing the same service quality at a lower price.⁵⁵ Over time, those firms that produce similar products or services more efficiently will capture market share away from firms charging inflated prices.

This basic model of how competitive markets set prices suggests that private school spending would not be \$32,000 per student if a similar level of quality could be provided for \$19,000 less – the public school price of \$13,000 per student. If families did not benefit from paying higher prices, then over time one would expect to see a substantial number of lower cost private schools – or for-profit schools that could charge \$32,000 per student and spend \$13,000. Such schools would have an opportunity to charge less than the average private school tuition, provide an equivalent level of quality, and still turn a profit. The fact that the market has set the price of a high quality education in a private school at \$32,000 suggests that an education of that quality likely cannot be provided for a significantly lower price.

There are many reasons why, in practice, a competitive model does not apply to K-12 education. For instance, many private schools offer a range of services and benefits that are substantially different from those at public schools. Some offer religious curricula not available in public settings, and others are highly exclusive and accessible only to families with certain privilege or social status. While these and other differences between the markets for public and private education are not insignificant, it is unlikely that they account fully for a \$19,000 cost difference. At their core, the public and private schools studied in this paper offer similar educational services for children in kindergarten through 12th grade. It is reasonable to conclude that much of the cost difference between public and private schools is attributable to more robust services offered by the state's private schools. Smaller class sizes, more expansive facilities, newer equipment, and a wider range of enrichment opportunities are all examples of tangible academic benefits derived from higher spending on education (these are examined in more detail in the preceding section entitled, "So what explains the spending disparity?"). The decision of thousands of Massachusetts families to pay \$32,000 thousand dollars a year for private schools suggests strongly that this higher level of spending allows those schools to provide a more robust education than is available at less costly schools.

This does not answer the question of whether the improvement in quality that can be achieved with a \$19,000 increase in spending is enough to justify such an increase. While many higher-income families have determined that such increased spending is worth it for their own children, whether paying for that quality of education for all children is worth it is a different question.

There is no guarantee that additional resources would improve the quality of education in every school – the resources would have to be spent wisely. It is also certainly true, for example, that exceptional individual teachers can compensate for a lack of other educational resources. Due to this natural variability, therefore, it makes most sense to analyze spending at the aggregate levels from a meaningful sample size, rather than at specific examples from individual classrooms. A significant number of families who can afford it choose freely to attend expensive private schools. If families that can afford to pay the substantial additional costs associated with private schools are choosing to do so, then it is worth considering how much stronger our state could ultimately be if we treated all children as if they deserved the very highest level of resources, not just those fortunate enough to have been born to affluent parents.

Conclusion

Discussions about government and taxes often turn into ideological debates about whether government is good or bad or taxes are high or low. At that abstract level, it is hard to have the kind of constructive debate that allows people to find common ground. In a democracy, the real questions citizens are faced with in budget debates are much more specific. What should we spend on education, or healthcare, or public safety? How can we be sure that our government is providing needed services in the most cost effective ways? What are the results of reducing what our government pays for the services it provides? These are real and difficult questions that become more challenging in times of fiscal crisis. They are, however, questions that need to be faced head on.

APPENDIX I: HEALTH CARE SECTION METHODOLOGY

The data in this analysis come from the cost reports submitted by the hospitals each year to the state Division of Health Care Finance and Policy. These data reports include three elements that we use in this analysis.

The reports include data on the charges (technically known as “gross patient service revenue”) levied by a hospital for service provided to patients. Charges are like the hospital’s “list price,” but are not the amounts actually paid by the public or private insurance companies.⁵⁶ These charges are reported by the type of service and by the insurance program to which the hospital levies the charges.

The second element included in the hospital cost report is data about the payments made to a hospital (technically known as “net patient service revenue”) from the public and private insurance programs. These are the payments actually made to the hospital, and these amounts paid are not necessarily the same as the hospitals’ charges (the “list prices”), nor are they necessarily the same as the hospitals’ reported costs. These payments are reported by type of service and by the insurance program from which the payments are made to the hospital.

The hospital cost reports also include data on the costs (technically known as “expenses”) incurred by the hospital for particular services, as calculated by the hospital. These costs include the expenses associated with the services provided, as well as various overhead costs. These data, as one would assume, are not divided among the insurance programs, since the cost for a blood test for someone on Medicaid is the same as the cost for a blood test for someone who has private insurance.

To calculate the payment rate for each hospital and for each category of service provided, we first determine the relationship between a hospital’s estimated costs and its reported charges for each category of service – that is, for inpatient services, outpatient services, non-routine or “ancillary” services. We then apply the appropriate ratio (inpatient, outpatient, non-routine services) to the hospital’s reported charges for each type of service and for each payer. This calculation gives us figures that estimate for each type of service and each payer the expenses for that hospital relative to its charges. We then combine these totals for each payer, appropriately weighted by type of service. (For example, the Commonwealth Care total includes the totals for inpatient, outpatient and non-routine Commonwealth Care.) We compare these totals to the reported payments, and this is what we call the “payment rate.”

These calculations allow us to compute payment rates for each hospital, but they also allow us to calculate appropriately weighted statewide averages for payments rates.⁵⁷ Once we determine a payment rate for public insurance programs and for private programs, we can compare them to each other.

These hospital cost data present significant technical challenges, and analyses of hospital payments and costs typically rely on additional information beyond these cost reports. Although hospitals are instructed to report their data on an accrual basis, there may not always be a direct technical alignment between the payments received and the costs incurred. As discussed above, hospitals also are likely to differ to some extent in how they distinguish in their reporting between “managed care” and “non-managed care.” Furthermore, the distinction between “public” and “private” health insurance is not always clear as there certain of the public programs have a public/private “hybrid” nature.

Finally, the analysis in this paper is not intended to draw conclusions about a hospital's profitability or its fiscal position. Although there has been much public discussion about the adequacy of payment rates to hospitals and cost-shifting among payers, the intent of the analysis in this paper is simply to compare the private sector rates of payment with the public sector rates of payment across hospitals in the Commonwealth. We urge the reader to use caution in interpreting any of these data in this report beyond the way in which we report and interpret them here.

¹ For more information about the Commonwealth's early education and care subsidy program and its importance to low-income families please see: *An Unstable Ladder: How the Fiscal Crisis is Threatening Education and Work Support Programs for Many Women* at <http://massbudget.org/doc/714/1037>

² Mean monthly caseload, Massachusetts Department of Early Education and Care, *The Capacity of the Early Care and Education System*, September 2009, at http://www.eec.state.ma.us/docs1/research_planning/capacity_rpt_2009.pdf. Mean caseload figures include all eligible age groups: infants, toddlers, preschoolers, and school-age children up to age 13.

³ A family must have an initial gross income which is at or below 50 percent of the State Median Income (SMI) in order to be considered eligible to receive EEC financial assistance. Once that family receives assistance, they may remain eligible until their income exceeds 85 percent of the SMI, provided they continue to meet other pertinent eligibility criteria. Families with a child with a documented disability are eligible for EEC financial assistance if their income is at or below 85 percent of the SMI. See Department of Early Education and Care *Financial Assistance Policy Guide* at http://www.eec.state.ma.us/docs1/regs_policies/201071_policy_guide_.pdf.

⁴ Massachusetts Department of Early Education and Care, *The Capacity of the Early Care and Education System*, September 2009, at http://www.eec.state.ma.us/docs1/research_planning/capacity_rpt_2009.pdf.

⁵ States are prohibited from setting provider reimbursement rates that are higher than those charged to private-paying families. As such, no state is legally permitted to purchase child care services at rates which exceed the private market. States often refer to their provider reimbursement rates as a "maximum rate" because there may be instances where a provider's published private pay rate falls below the set state rate. In this instance, the state may only reimburse up to the published private rate, and thus, less than the state reimbursement rate. These instances are quite rare, and in the Commonwealth are typically, but not exclusively, limited to family child care settings.

⁶ See Department of Early Education and Care *Financial Assistance Policy Guide* at http://www.eec.state.ma.us/docs1/regs_policies/201071_policy_guide_.pdf, Appendix A: EEC Financial Assistance Parent Co-Payment Table.

⁷ Federal CCDF regulations suggest that child care costs should not exceed 10 percent of a family's gross income to be deemed affordable. United State General Accounting Office: GAO-02-894 Child Care Reimbursement Rates, 2002.

⁸ The major sources of funding for child care financial assistance for low-income families include the federal Child Care and Development Block Grant (CCDBG) and Temporary Assistance for Needy Families (TANF) Block Grant.

⁹ See National Child Care Information and Technical Assistance Center at the Administration for Children and Families: State Child Care Market Rate Surveys: <http://nccic.acf.hhs.gov/poptopics/mrsmethods.html>

¹⁰ See Child Care Development Fund Final Rule: 45 CFR Parts 98 and 99, CCDF Final Rule, pg 39988, Section 98.43(c)

¹¹ EEC has designated the following six geographic regions: Western (including Springfield, Pittsfield, and North Adams), Central (including Fitchburg and Worcester), Northeastern (including Lowell, Lynn, and Lawrence), Metro Boston (including the I-95 corridor, Quincy, Framingham and Newton), Southeastern (including New Bedford, Brockton, and Fall River), and the City of Boston.

¹² Code of Massachusetts Regulations, 606 CMR 7.10, http://www.mass.gov/Eeoe/docs/EEC/regs_policies/20100122_606_cmr.pdf.

¹³ Maximum state provider reimbursement rates for the provision of child care services consist of two parts: the state subsidy paid directly to a provider and the co-payment the family pays to a provider. These co-payments vary according to family

income and size on a sliding fee scale, and the amount of the state subsidy declines as the family co-payment rises. Added together, however, the parent co-payment and state contribution may not exceed the maximum reimbursement rates set by the state. This analysis does not include additional payments to family child care systems for administrative support, payments made to programs providing enhanced services to teen parents, supportive services for children with an open case with the Department of Children and Families or transportation.

¹⁴ Massachusetts Department of Early Education and Care, *The Capacity of the Early Care and Education System*, September 2009, http://www.eec.state.ma.us/docs1/research_planning/capacity_rpt_2009.pdf.

¹⁵ *The Massachusetts 2008 Child Care Market Rate Survey*: June 2009, http://www.mass.gov/Eeoe/docs/EEC/research_planning/state_planning/marketratesurvey2008.pdf.

¹⁶ See the Department of Early Education and Care 2008-2009 CCDF State Plan, Section 3.2 page 45, http://www.mass.gov/Eeoe/docs/EEC/research_planning/state_planning/ccdf_2008_2009_plan.pdf.

¹⁷ Median annual earnings of wage-and-salary child care workers in Massachusetts was \$22,700 in 2009, excluding benefits. US Bureau of Labor Statistics, May 2009: State Occupational Employment and Wage Estimates, http://www.bls.gov/oes/current/oes_MA.htm.

¹⁸ Providers shall not charge parents, for whom they are receiving EEC financial assistance funding, any additional registration, application, field trip, special activity, food for special events, or materials fees for participation in their program, or surcharges for late payments of parent fees. See Department of Early Education and Care *Financial Assistance Policy Guide* at http://www.eec.state.ma.us/docs1/regs_policies/201071_policy_guide.pdf.

¹⁹ Helburn, S., ed. *Cost, quality, and child outcomes in child care centers: Technical report*. Denver, CO: Department of Economics, Center for Research in Economic and Social Policy, University of Colorado, 1995.

²⁰ S. Traill and J. Wohl, *The Economic Impact of the Child Care and Early Education Industry in Massachusetts*, (Oakland, CA: National Economic Development and Law Center, 2004).

²¹ Barnett, W. 2003. *Low Wages = Low Quality, Solving the Real Preschool Teacher Crisis*: New Brunswick, NJ: National Institute of Early Education Research.

²² *Defining High Quality Early Education: Teacher Education and Training*. (2008) Early Education for All at http://www.strategiesforchildren.org/eea/6research_summaries/08_TeacherEd.pdf

²³ S. Traill and J. Wohl, *The Economic Impact of the Child Care and Early Education Industry in Massachusetts*, (Oakland, CA: National Economic Development and Law Center, 2004).

²⁴ *Making Use of Economic Recovery Funds: Child Care Policy Options for States*, Center for Law and Social Policy and National Women's Law Center: March 2009, <http://www.clasp.org/admin/site/publications/files/0463.pdf>.

²⁵ *Parents and the High Cost of Child Care: 2010 Update*: National Association of Child Care Resource and Referral Agencies at http://www.naccrra.org/docs/Cost_Report_073010-final.pdf.

²⁶ Matthews, H. and Shumaker, R. *Ensuring Quality Care for Low-Income Babies: Contracting Directly with Providers to Expand and Improve Infant and Toddler Care*, (Washington DC: Center for Law and Social Policy, 2008).

²⁷ There are other public providers of health care coverage in addition to these three. Federal public coverage includes individuals covered through the military or through the Veterans Administration. Until the implementation of health reform in Massachusetts in 2006, there were several small health coverage programs that were fully funded by state dollars. These have now been incorporated into the state's larger health reform effort, and are in effect encompassed by the MassHealth program. There is also publicly-administered funding from the Health Safety Net (formerly referred to as the Uncompensated Care Pool), but the 2008 data for Health Safety Net payments cannot be fully included in the totals used in this analysis, and are reported separately. The Health Safety Net payments to hospitals, although publicly-regulated, are made in part with dollars assessed from the hospitals themselves.

²⁸ These terms ("managed care," "non-managed care," "fee-for-service," "pre-paid," "capitated") all describe different ways for which health care service providers get reimbursed by health insurance providers for the care provided to patients. In

pre-paid or capitated “managed care” programs, health care providers (like hospitals) typically get paid a pre-established amount for care. In “fee-for-service” programs, health care providers get reimbursed based on the services actually provided.

²⁹ From research conducted by Leighton Ku and Matthew Broaddus, “Public and Private Insurance: Stacking Up the Costs,” *Health Affairs* (web exclusive), summarized in Edwin Park, “Expanding Medicaid a Less Costly Way to Cover More Low-Income Uninsured Than Expanding Private Insurance,” Center on Budget and Policy Priorities, June 26, 2008, available at <http://www.cbpp.org/cms/index.cfm?fa=view&id=429> (accessed December 7, 2010).

³⁰ Leighton Ku and Matthew Broaddus, “Public and Private Insurance: Stacking Up the Costs,” *Health Affairs* (web exclusive), 27, no. 4 (2008): w326 (published online June 24, 2008; 10.1377/hlthaff.27.4.w318).

³¹ Will Fox and John Pickering, “Hospital & Physician Cost Shift: Payment Level Comparison of Medicare, Medicaid and Commercial Payers”, December 2008, p. 5.

³² Ibid.

³³ Ibid., p.2

³⁴ Memorandum to the Secretary of Administration and Finance, et al, from the Lewin Group, based on an “Analysis of the Reimbursement Rates for Acute Hospitals, Nonacute Hospitals, and Community Health Centers,” p. 35.

³⁵ Ibid., p. 62.

³⁶ Ibid., p. 35.

³⁷ See American Hospital Association, “Trendwatch Chartbook 2010: Trends in Hospital Financing,” chart 4.6. Available at <http://www.aha.org/aha/research-and-trends/chartbook/ch4.html> (accessed December 16, 2010).

³⁸ *MassBudget* analyzed data from the state Division of Health Care Finance and Policy for each of the Commonwealth’s acute care hospitals, based on reports from the hospitals submitted annually to the Division (DHCFP-403 Cost Reports). Because these data are self-reported, it is not possible to know exactly whether each hospital completes the forms in the same way. For a discussion of the data analyzed and the computations, see the appendix to this section.

³⁹ Charges levied by hospitals are the same for a service, regardless of whether or not a particular patient requires more extensive services than another. In addition, some patients require translators, financial counseling, or social work supports that may not be fully-reimbursed by insurance payments.

⁴⁰ See Division of Health Care Finance and Policy, “FY 2008, DHCFP-403, Hospital Statement of Costs, Revenues, and Statistics: General Instructions.”

⁴¹ The federal Disproportionate Share Hospital program (DSH) is a program that explicitly targets hospitals for which public sector health care payments are insufficient to cover the hospital’s costs. For (federal) FY 2008, federal DSH funding to Massachusetts totaled \$287.3 million (see Federal Register, April 23, 2010 for final FY 2008 DSH allotment, available at <http://frwebgate2.access.gpo.gov/cgi-bin/PDFgate.cgi?WAISdocID=DMKCac/0/2/0&WAIAction=retrieve>). In addition to the DSH program, there are other federal programs that allow the state Medicaid program to provide “non-DSH” supplemental payments to certain health care providers. Both DSH and non-DSH payments supplement standard Medicaid payment rates to help offset certain hospitals’ unreimbursed costs. With the passage of the state’s health reform law in 2006, the Massachusetts DSH and non-DSH programs were combined into what is referred to as the Safety Net Care Pool. The Commonwealth now provides supplemental Medicaid payments to certain health care providers through its Safety Net Care Pool mechanism, and via budgetary transfers to the Medical Assistance Trust Fund. The federal government approved a total annual allotment of \$1.345 billion for the Safety Net Care Pool for FY 2008, some of which is distributed through Medicaid supplemental payments to hospitals. The Mass. Division of Health Care Finance and Policy (DHCFP) states that DSH hospitals are those “those hospitals with a large percentage (63 percent or more) of patient charges attributed to Medicare, Medicaid, other government payers, and free care.” For FY 2008, DHCFP identifies 18 hospitals as fitting these criteria. See “Massachusetts Acute Hospital Financial Performance: Fiscal Year 2008,” June 2009, available at www.mass.gov/dchfp.

⁴² See Executive Office of Health and Human Services, Office of Medicaid, Notices of Final Agency Action, effective 11/1/07, 10/1/08, 11/1/09, and 12/7/10. Many of the department’s notices and regulations are available at <http://www.mass.gov/?pageID=eohhs2terminal&L=4&L0=Home&L1=Government&L2=Laws%2c+Regulations+and+Policies>

[es&L3=MassHealth+Regulations+and+Other+Publications&sid=Eeohhs2&b=terminalcontent&f=masshealth_government_ac utehospitals_current&csid=Eeohhs2](https://www.mass.gov/info-details/masshealth-current-utehospitals-current&csid=Eeohhs2)

⁴³ See Centers for Medicare and Medicaid Services, “Quarterly Index Levels in the CMS Prospective Payment System (IPPS) Hospital 2006 Input Price Index using IHS Global Insight Inc. (IGI) Forecast Assumptions, by Expense Category: 1991-2020”, available at <https://www.cms.gov/MedicareProgramRatesStats/downloads/mktbskt-pps-hospital-2006.pdf> (accessed December 17, 2010).

⁴⁴ These numbers will not necessarily align with the estimates used at the time of the distribution of hospital contracts as the numbers in the table are based on actual inflation rates as currently reported, rather on the forecasts which may have been used at that time.

⁴⁵ This report uses 990s from FY 2008, the latest year for which all schools have submitted complete data.

⁴⁶ U.S. Department of Education, *Characteristics of Private Schools in the United States: Results From the 2007-08 Private School Universe Survey: First Look*, March 2009, available at: nces.ed.gov/pubsub/2009/2009313.pdf

⁴⁷ Due to the variety of grade structures in private schools, in this paper “elementary school” is defined as a school with any combination of kindergarten through eighth grades.

⁴⁸ Since private schools’ 990s do not itemize boarding costs, there is no way to quantify precisely these expenditures. A rough estimate of boarding costs was calculated by reducing total school expenditures by a school-specific factor that takes into account the ratio of day to boarding tuitions at individual schools balanced by the relative day and boarding student populations.

⁴⁹ One could argue that a city’s assessor’s office serves a similar money collecting function to the fundraising staff of a private school, but the costs of collecting mandatory tax dollars are likely much lower than the costs of compelling voluntary individual donations.

⁵⁰ The lumpiness of capital spending is less of an issue for private school spending side since the IRS 990 form has schools depreciate capital investments, thus smoothing capital costs over time.

⁵¹ There exists an important distinction between the direct cost of funding employer pension contributions in a given year and funding these payments plus an additional contribution targeted at compensating for a pension fund’s unfunded liability resulting from many previous years of underfunding. “Net Employer Normal Cost,” which is the measurement used in this report, captures the first, direct annual contribution amount and totaled \$110 million for MTRS and Boston teachers as of 1/1/09. This amount is less than one-tenth the total state benefit contribution of \$1.862 billion, which includes the total pension and annuity cost to back fund the unfunded liability for all state pensions, including teachers. While this second amount is a real expense of state government, the problem of underfunding pensions in the past should not be considered a cost of providing education in the present.

⁵² The student/teacher ratio is 7.1 for non-religious private schools with publicly available 990 tax forms – the subset of schools for which we conducted our detailed spending analysis.

⁵³ For FY 2010, children from families with incomes at or below 130 percent of the federal poverty level (\$28,665 for a family of four) were eligible for free meals and those with incomes between 130 and 185 percent were eligible for reduced-price meals (\$40,793 for a family of four).

Private schools are allowed to opt-into the National School Lunch Program and receive reimbursements for students who qualify for free and reduced lunches. Only 77 private schools participated in FY 2008, however, and the vast majority of these are Catholic schools who are not included in this report. Because the sample size is so small and because these schools are not representative of the larger private school universe, data on income status for private school students is not reliable enough to be included in this report.

⁵⁴ 808 schools participated in the 2007-2008 NCES Private School Universe Survey. Making a non-response adjustment, NCES estimates a total of 947 private (secular and non-secular) schools in Massachusetts.

⁵⁵ Nicholson, Walter, (2004) *Intermediate Microeconomics and Its Application*, Ninth Edition, Thomson South-Western, Mayson, Ohio, 267-68

⁵⁶ On net, hospitals receive payments totaling less than 50 percent of their published charges. This difference in part is referred to as the “contractual adjustment,” which represents the “difference between full established charges for individual services and the contractual rates with third party payers for services rendered.” (Division of Health Care Finance and Policy, “FY 2008 DHCFP-403, Hospital Statement of Costs, Revenues and Statistics: General Instructions,” p.20.)

⁵⁷ If hospital payments were to cover the hospital’s estimated costs fully and exactly, the “payment rate,” the ratio between payments to a hospital and estimated costs, would be 100 percent. If payments were less than the estimated costs, the ratio between payments and estimated costs would be less than 100 percent. If a payment were to exceed the estimated cost for a service (a ratio of greater than 100 percent), we might assume that particular payment “cross-subsidizes” other lower payments. This phenomenon, where one payer is charged in excess of cost to make up for losses incurred due to under-payments by others is often referred to as “cost-shifting.”